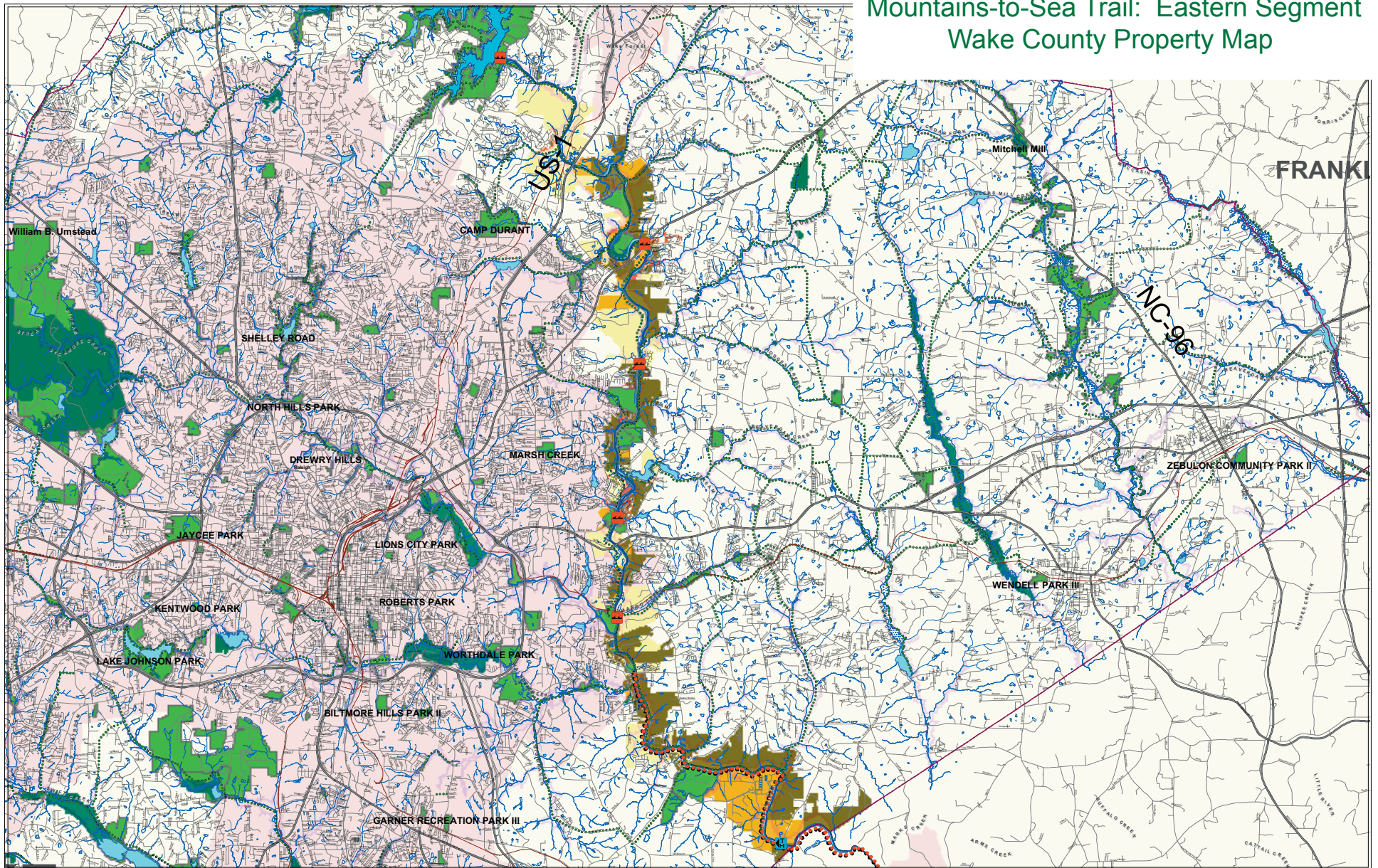


## **Appendix A: County Level Planning Maps**

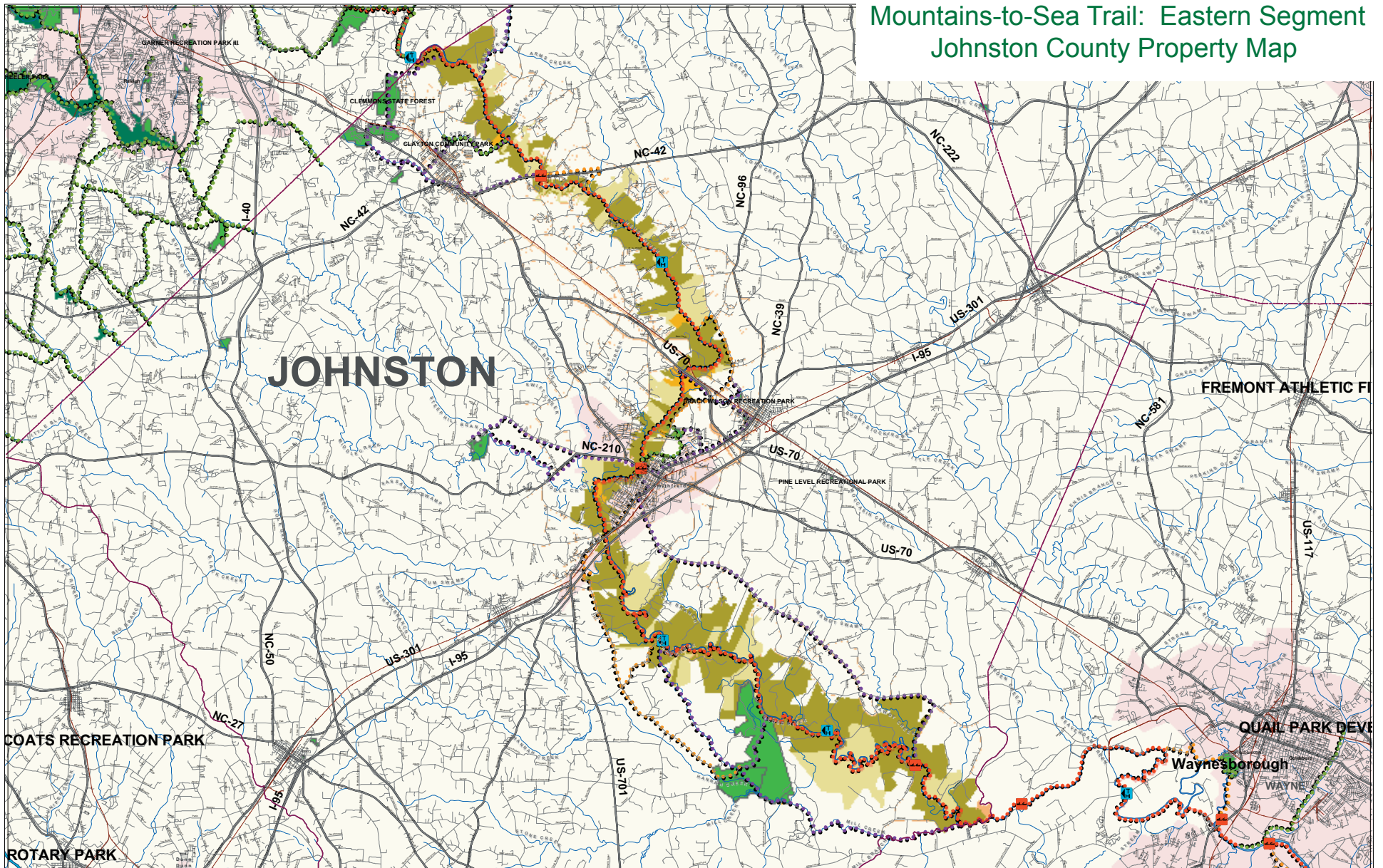


Mountains-to-Sea Trail: Eastern Segment  
Wake County Property Map

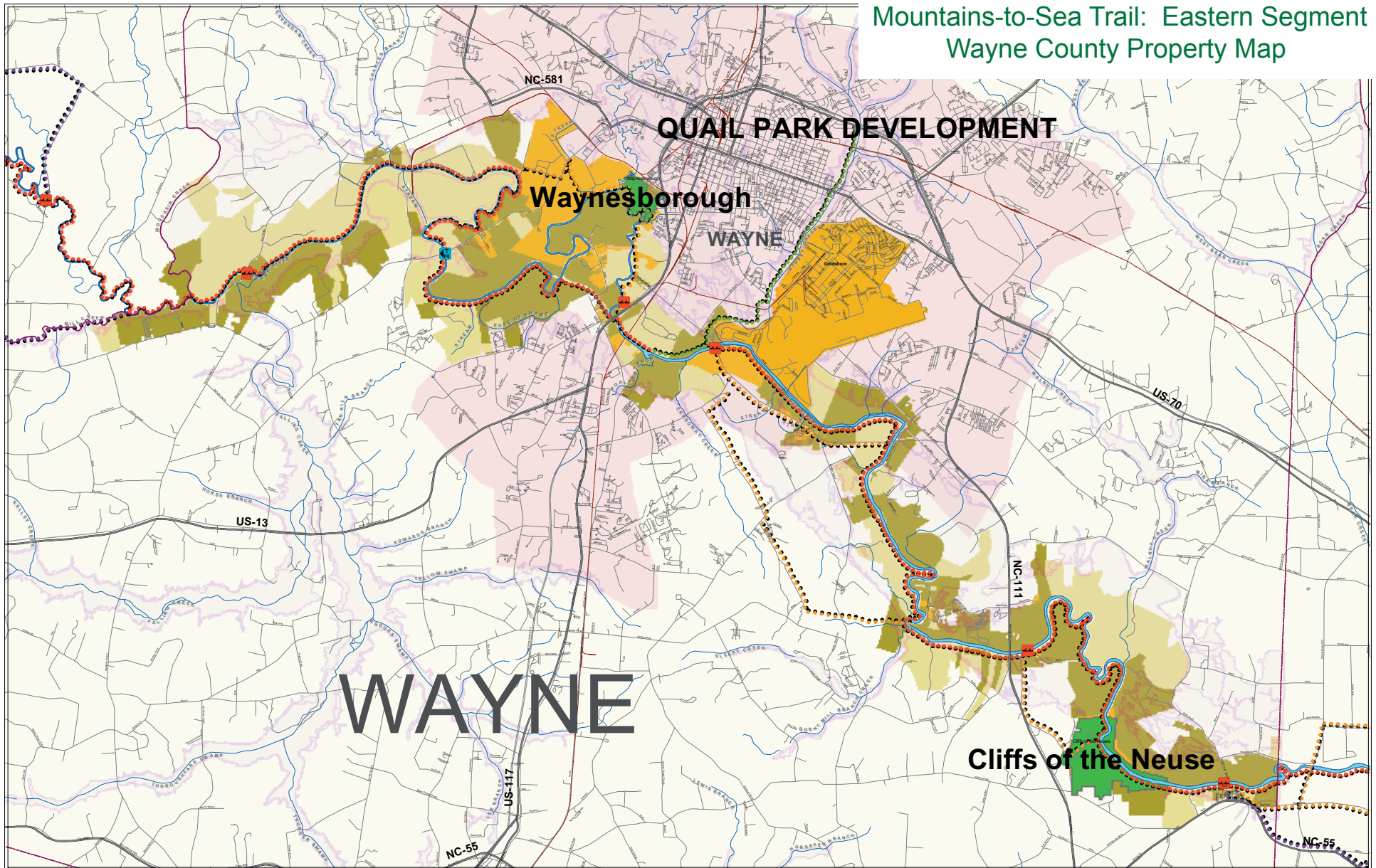




## Mountains-to-Sea Trail: Eastern Segment Johnston County Property Map

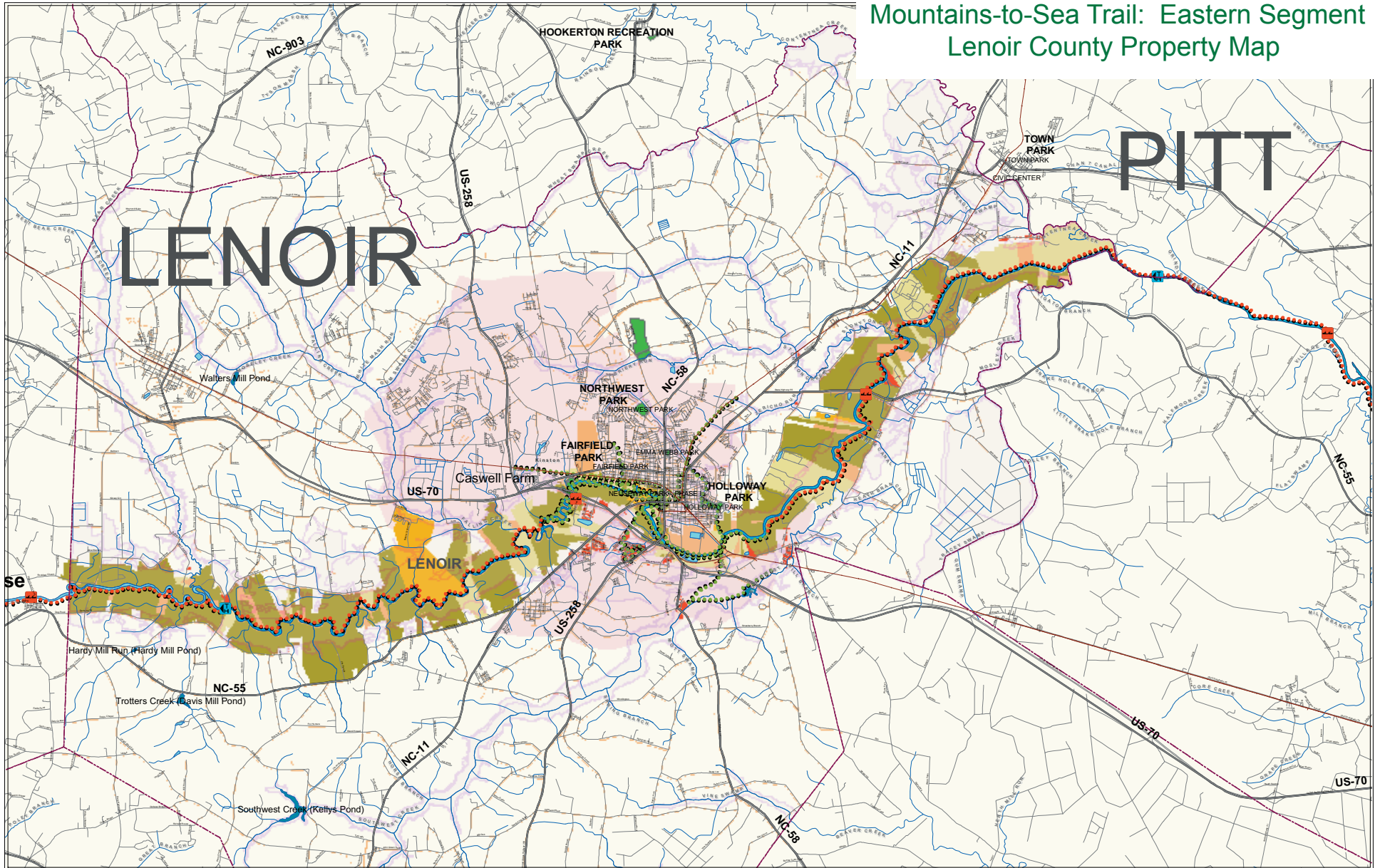


Mountains-to-Sea Trail: Eastern Segment  
Wayne County Property Map

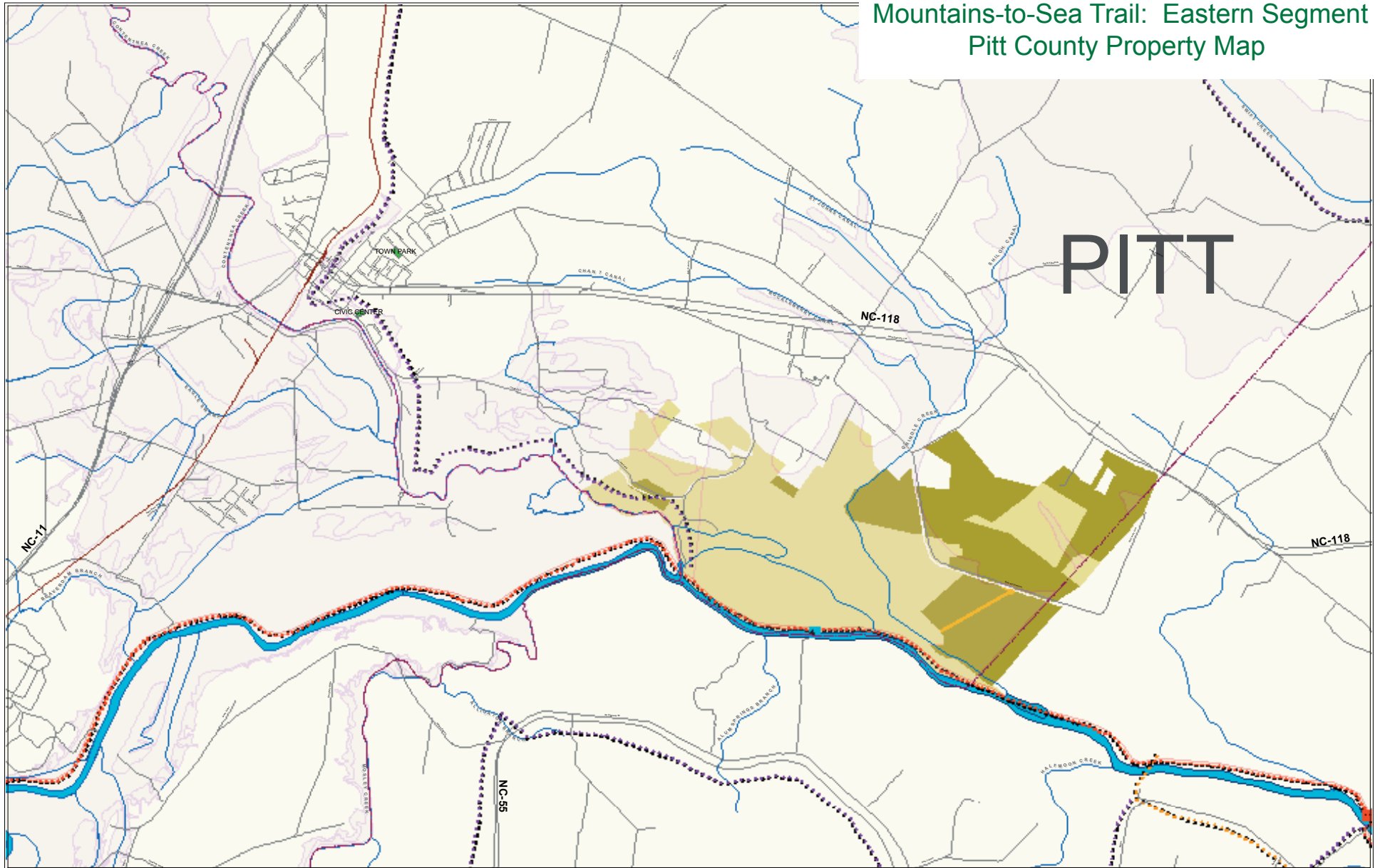




# Mountains-to-Sea Trail: Eastern Segment Lenoir County Property Map

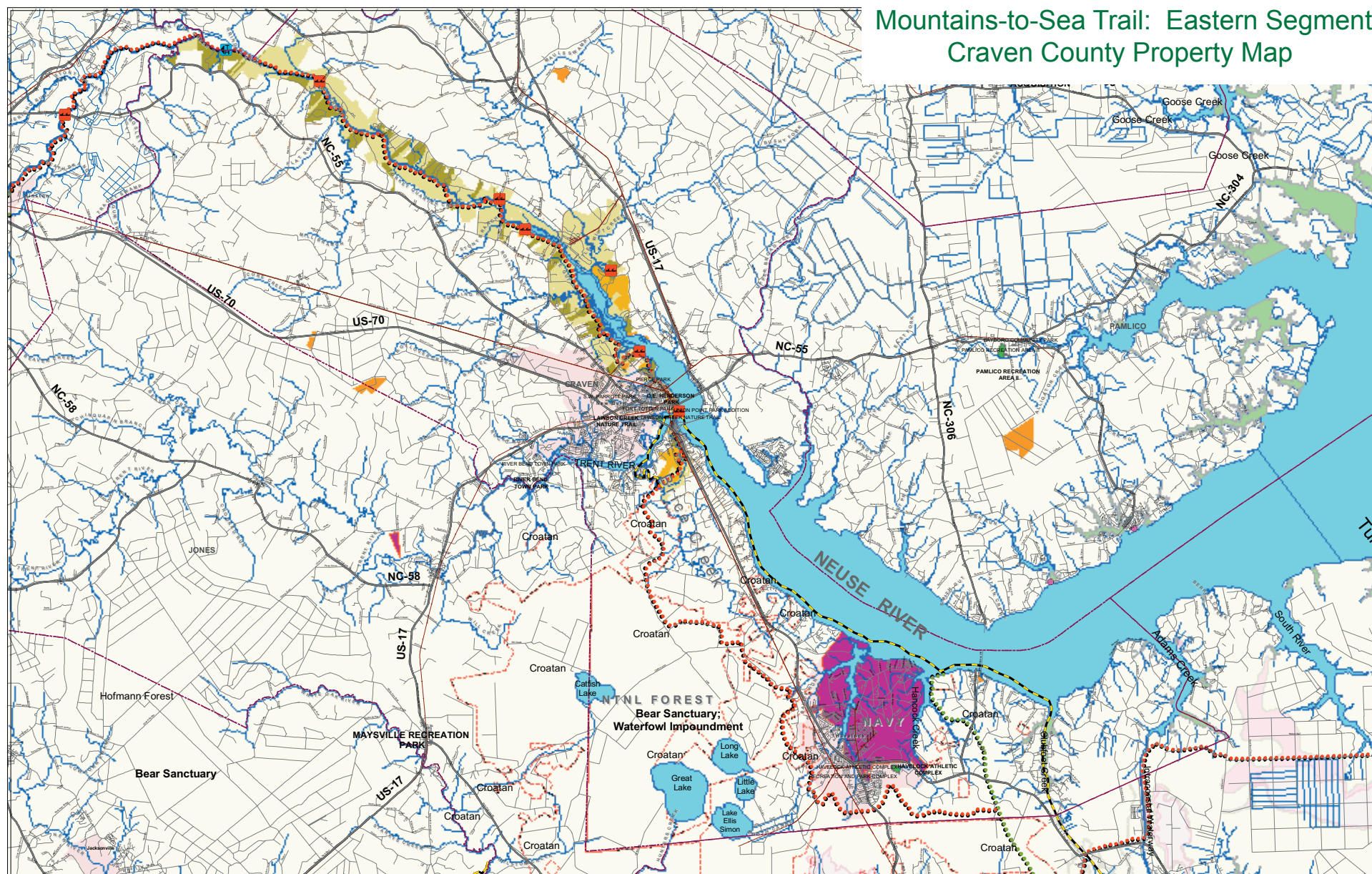


Mountains-to-Sea Trail: Eastern Segment  
Pitt County Property Map

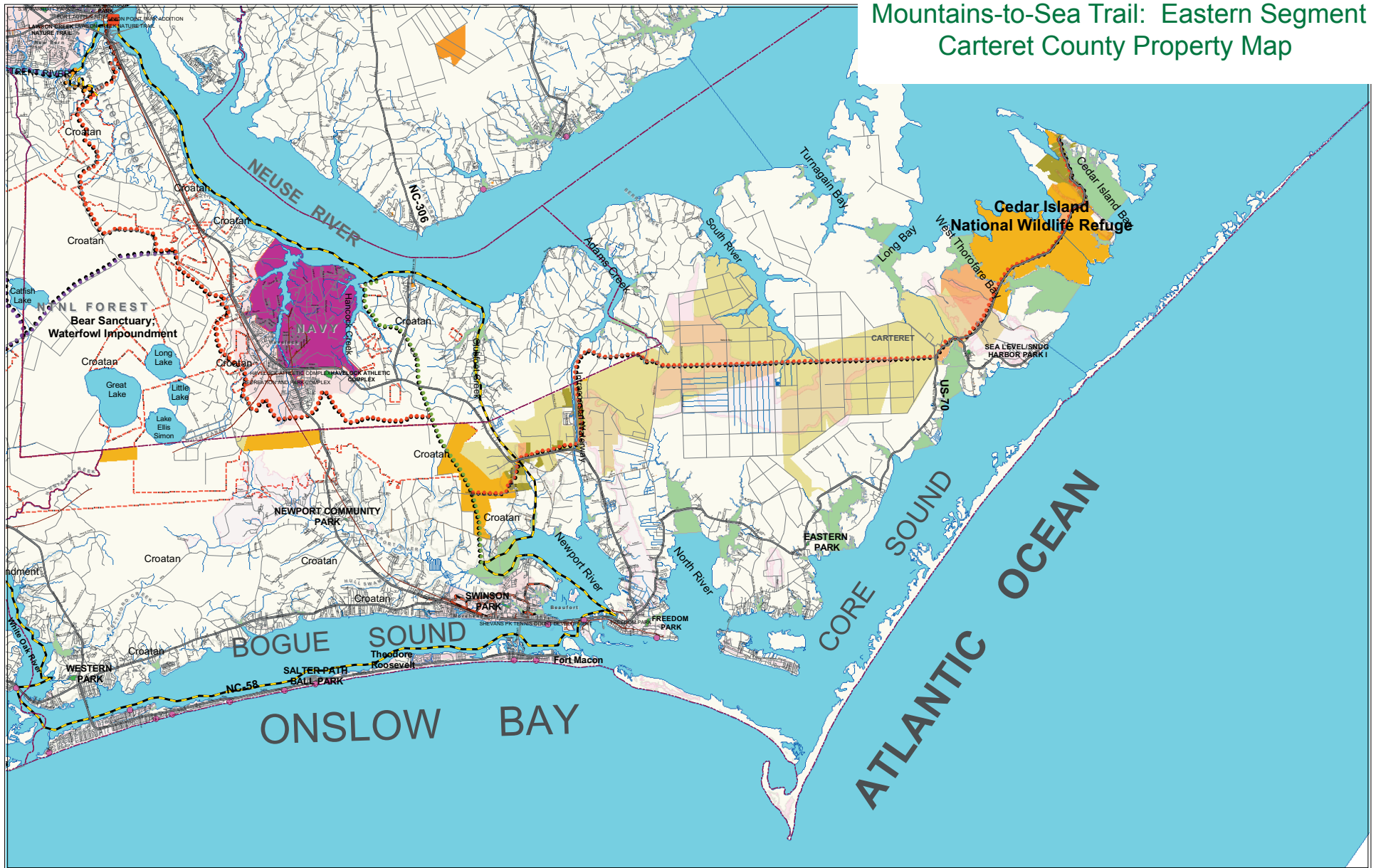




# Mountains-to-Sea Trail: Eastern Segment Craven County Property Map



# Mountains-to-Sea Trail: Eastern Segment Carteret County Property Map





## Appendix B: Land Acquisition Options

### Mechanisms for Acquisition of Land through Management

Management is a method of conserving the resources of a specific greenway parcel through either an established set of policies called Management Plans, or through negotiated agreements or easements with private property owners.

### Management Plans

Management plans are prepared by City and County agencies for government-owned greenway lands. In addition, agencies can work together to establish management plans for lands under their control. Management plans should identify valuable resources; determine compatible uses for the parcel; determine administrative needs of the parcel, such as maintenance, security and funding requirements; and recommend short-term and long-term action plans for the treatment and protection of the resources.

### Subdivision Plans

Both City and County Subdivision Ordinances contain requirements related to public park sites, trails and greenways. Under these provisions, agency staff works with landowners of the proposed development to secure the necessary right-of-way for the trail system. The planning staff may be able to require the reservation of the site for a period of time sufficient to allow the local governments and their partners to acquire the site by dedications purchase, or other means.

Both City and County Zoning Ordinances also allow the dedication of greenway and trail lands to count as the minimum open space requirement for certain developments such as cluster and mixed use development. Planning staff can encourage the dedication of such land through the rezoning or subdivision processes.

### Easements

Land management agreements in which the local governments receives less than full interest in a parcel of land in order to protect a valuable resource. The purpose of these agreements is to establish legally binding contracts or a mutual understanding of the specific use, treatment and protection that these greenway lands will receive. Property owners who grant easements retain all rights to the property except those which have been granted by the easement. The property owner is responsible for all taxes associated with the property, less the value of the easement granted. Easements are generally restricted to certain portions of property, although in certain cases an easement can be applied to an entire parcel of land. Easements are transferable through title transactions, thus the easement remains in effect in perpetuity. Three types of greenway easements are:

### Conservation Easements

This type of easement generally establishes permanent limits on the use and development of land to protect the natural resources of that land. Dedicated conservation easements can qualify for both federal income tax deductions and state tax credits. Tax deductions are allowed by the Federal government for donations of certain conservation easements. The donations may reduce the donor's taxable income.



### Preservation Easements

This type of easement is intended to protect the historical integrity of a structure or important elements of the landscape by sound management practices. Preservation easements may qualify for the same federal income tax deductions and state tax credits as conservation easements.

### Public Access Easements

Right of public access easements provide the general public with the right to access and use a specific parcel of property. Both conservation easements and preservation easements may contain clauses for the right of public access and still be eligible for tax incentives.

### Mechanisms for Acquisition of Greenways through Regulation

A second method of protecting the corridor for the Mountains-to-Sea Trail is through government regulation. Regulation is defined as the government's ability to control the use and development of land through legislative powers. The following types of development ordinances are regulatory tools that can meet the challenges of projected suburban growth and development and, at the same time, conserve and protect greenway resources.

### Dedication/Density Transfers

Also known as incentive zoning, this mechanism allows greenways to be dedicated to local governments for density transfers on the development of a property. The potential for improving or subdividing part or all of a parcel of real property, as permitted under local government land use development laws, can be expressed in dwelling unit equivalents or other measures of development density or intensity. Known as density transfers,

these dwelling unit equivalents may be relocated to other portions of the same parcel or to contiguous land that is part of a common development plan. Dedicated density transfers can also be conveyed to subsequent holders if properly noted in transfer deeds.

### Negotiated Dedications

Local governments may ask a landowner to enter into negotiations for certain parcels of land that are deemed beneficial to the protection and preservation of the Mountains-to-Sea corridor. Local governments may ask for the dedication of land for the MST corridor when a landowner subdivides the property (a minimum size would be determined). Such dedications would be proportionate to the relationship between the impact of the subdivision on community services and the percentage of land required for dedication - as defined by the US Supreme Court in *Dolan v Tigard*.

### Fees-in-Lieu

To complement negotiated dedications, a fee-in-lieu program may be necessary to serve as a funding source for other land acquisition pursuits of the Mountains-to-Sea Trail. Based on the density of development, this program allows a developer the alternative of paying money for the development/protection of greenways in lieu of dedicating land for greenways. This money is then used to implement greenway management programs or acquire additional greenway lands.

### Reservation of Land

A reservation of land does not involve any transfer of property rights but simply constitutes an obligation to keep property free





from development for a stated period of time. Reservations are normally subject to a specified period of time, such as 6 or 12 months. At the end of this period, if an agreement has not already been reached to transfer certain property rights, the reservation expires.

#### Conditional Use Permits

Also known as conditional use rezoning, this mechanism can create public and private greenways through special restrictions placed on the rezoning of a property. Conditional use permits require the owner to perform some act or make site improvements to justify the change in zoning classification. This mechanism allows planning officials to accommodate property owners, to not conflict with the Land Use Plan and to protect greenways within the local government.

#### Buffer/Transition Zones

This mechanism recognizes the problem of reconciling different, potentially incompatible land uses by preserving greenways that function as buffers or transition zones between uses. Care must be taken to ensure that use of this mechanism is reasonable and will not destroy the value of a property.

#### Overlay Zones

An overlay zone and its regulations are established in addition to the zoning classification and regulations already in place.

#### Subdivision Exactions

An exaction is a condition of development approval that requires a developer to provide or contribute to the financing of public facilities at his own expense. For example, a developer may be

required to build a greenway on-site as a condition of developing a certain number of units because the development will create need for new parks or will harm existing parks due to overuse. The mechanism can be used to protect or preserve a greenway which is then dedicated to the local government.

#### Mechanisms for Protection of Greenways through Acquisition

The third method of protecting stream corridor/greenways is through the acquisition of property. A variety of methods can be used to acquire property for greenway purposes.

#### Donation/Tax Incentives

A local government agency agrees to receive full title to a parcel of land at virtually no cost. In most cases, the donor is eligible to receive federal and state deductions on personal income, as previously described under conservation easements. In addition, property owners may be able to avoid inheritance taxes, capital gains taxes and recurring property taxes.

#### Fee Simple Purchase

This is a common method of acquisition where a local government agency or private greenway manager purchases property outright. Fee simple ownership conveys full title to the land and the entire “bundle” of property rights including the right to possess land, to exclude others, to use land and to alienate or sell land.

#### Easement Purchase

This mechanism is the fee simple purchase of an easement. Full title to the land is not purchased, only those rights granted in the easement agreement. Therefore the easement purchase price is less than full title value.



### Purchase/Lease Back

A local government agency or private greenway organization can purchase a piece of land and then lease it back to the seller for a specified period of time. The lease may contain restrictions regarding the use and development of the property.

### Bargain Sale

A property owner can sell property at a price less than the appraised fair market value of the land. Sometimes the seller can derive the same benefits as if the property were donated. Bargain Sale is attractive to sellers when the seller wants cash for the property, the seller paid a low cash price and thus is not liable for high capital gains tax, and/or the seller has a fairly high current income and could benefit from a donation of the property as an income tax deduction.

### Option/First Right of Refusal

A local government agency or private organization establishes an agreement with a public agency or private property owner to provide the right of first refusal on a parcel of land that is scheduled to be sold. This form of agreement can be used in conjunction with other techniques, such as an easement, to protect the land in the short term. An option would provide the agency with sufficient time to obtain capital to purchase the property or successfully negotiate some other means of conserving the greenway resource.

### Rezoning Petitions

Petitions for rezoning that are adjacent to or include areas identified as potential park or greenway site are sent to the Park and Recreation Department staff for their comments. Planning

staff encourage the dedication of those areas as part of the rezoning process.

### Purchase of Development Rights

Purchase of Development Rights (PDR) programs are often used to protect agricultural lands. PDR involves purchasing the development rights from a private property owner at a fair market value. The landowner retains all ownership rights under current use, but exchanges the rights to develop the property for cash payment.





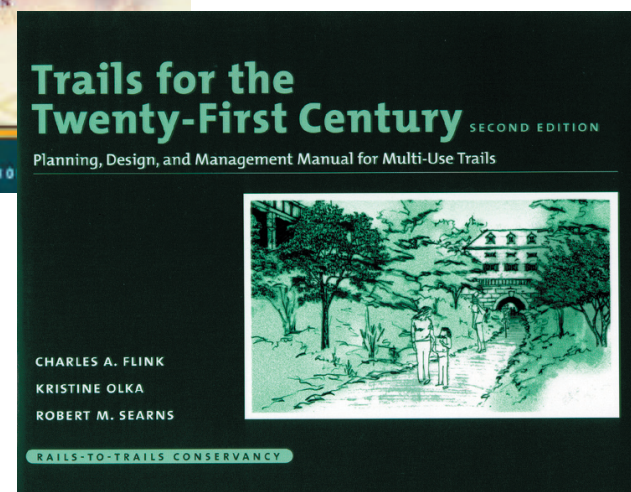
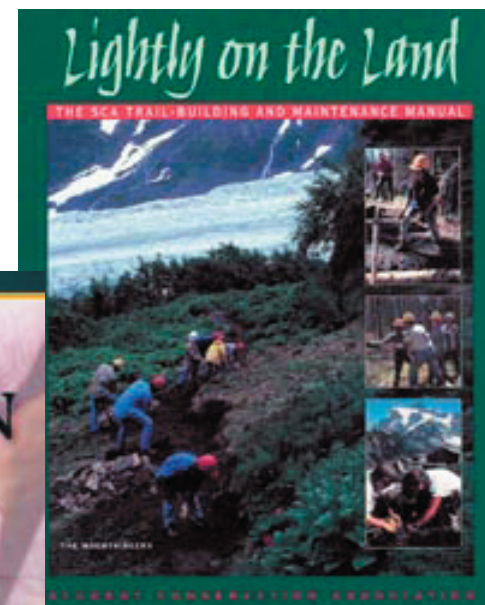
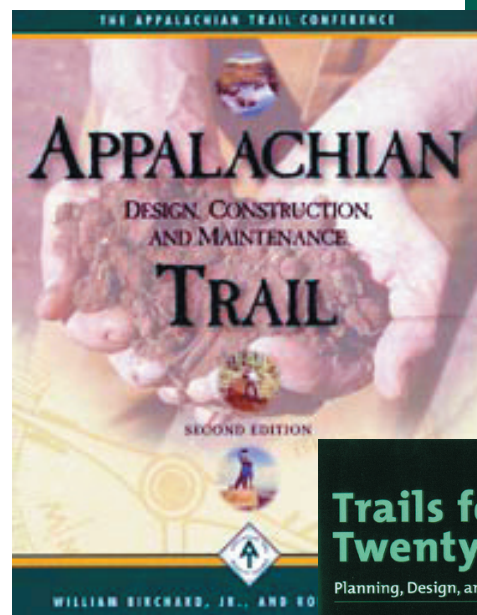
## Appendix C: Facility Management

Mountains-to-Sea Trail facilities shall be maintained in a manner that promotes safe use. All trail facilities should be managed by local governments or their designee. Trail maintenance should include the removal of debris, trash, litter, obnoxious and unsafe man-made structures, and other foreign matter so as to be safe for public use. Trail heads, points of public access, rest areas and other activity areas should be maintained in a clean and usable condition at all times. The primary concern regarding maintenance should always be public safety.

All trail surfaces should be maintained in a safe and usable manner at all times. Rough edges, severe bumps or depressions, cracked or uneven pavement, gullies, rills and washed out treads should be repaired immediately. Volunteer vegetation occurring in the tread of the trail should be removed in such a manner so that the trail surface is maintained as a continuous, even and clean surface.

### Right of Public Access and Use of Trails

The general public should have free access to and use of those MST lands that support public use, and that are owned by local or state government agencies or on land that a local entity has secured the right of public access and use. All access and use is governed by existing local government public land policies and should also be governed by a new MST Trail Ordinance (found in this chapter). The use of all trails is limited to non-motorized uses and may include hiking, bicycling, running, jogging, wheelchair use, skateboarding, rollerblading, equestrian use, mountain biking, and other uses that are determined to be compatible with the Mountains-to-Sea Trail system and local goals and interests.



### **Fencing and Vegetative Screening**

Local governments should work with individual landowners on a case-by-case basis to determine if fencing and screening is required and appropriate along the MST corridor. Local governments and the State may agree to fund the installation of a fence or vegetative screen; however, it should be the responsibility of the adjacent property owner to maintain the structure in perpetuity, including the full replacement of such fence or screen in the event of failure or deterioration due to any circumstances.

### **Adopt-A-Trail Program**

An Adopt-a-Trail Program has already been established by the State of North Carolina Trails Program to encourage community groups, families, businesses, school groups, civic clubs and other organizations to join in developing and managing the greenway system. The State should continue and expand this program for every trail segment in the MST corridor, and work closely with local organizations to ensure that these groups manage and maintain trails in a manner that is consistent with local government objectives. Each local government should develop written agreements for each Adopt-a-Trail entity and keep a current record of this agreement on file. Adopt-a-Trail entities should be assigned a specific section of the MST-East trail system, defined by location or milepost. The activities of each organization should be monitored by the local government or its designee. Agreements for management can be amended or terminated at any time by either party, giving a written notice in sufficient time for a replacement agreement to be arranged.

### **Management Agreements**

Management Agreements can also be established between local

governments and other public or private organizations wishing to assist with the management of designated segments of the MST system. The objective of these agreements is to define areas of maintenance and management that are compatible with existing land management activities, especially where the MST intersects with public or private properties and/or rights-of-way. Management agreements spell out specific duties, responsibilities and activities of the local government and its partnering public or private organization that wishes to assist with management activities. They can be amended or terminated at any time by either party, giving 30 days written notice.

### **Cross Access Agreements**

Local governments can use cross access agreements to permit private landowners that have property on both sides of the MST corridor access to and use of a MST corridor to facilitate operation and land use activities.

Cross access agreements are based on case law of the United States and specific experiences from other greenway trail systems throughout the United States. Adjacent landowners generally have the right to use the access at any time. However, access cannot block the right-of-way for trail users, other than for temporary measures such as permitting livestock to cross, or transporting equipment. Adjacent landowners are responsible for acts or omissions which would cause injury to a third party using the trail. If a landowner must move products, materials, livestock or equipment across the trail on a regular basis, appropriate signage should be installed to warn users of the trail to yield for such activities.

Crossing of abandoned or active rail lines, utility corridors and/or roads and highways will require the execution of agreements with





companies, local, state or federal agencies and organizations that own the rights-of-way. These crossings must provide clearly controlled, recognized, and defined intersections in which the user will be warned of the location. In accordance with the American Association of State Highway Transportation Officials (AASHTO) and the Manual on Uniform Traffic Control Devices (MUTCD), the crossing will be signed with appropriate regulatory, warning and information signs.

### **Trail Construction Practices**

Construction of the MST-East should strictly adhere to the most sound principles and practices of trail design. Several publications are available to guide the State Trails Program, local governments and private sector groups as trail development proceeds. Some of these publications are illustrated on this page. The Friends of the Mountains-to-Sea Trail and the North Carolina State Trails Program maintain up-to-date lists of design and construction guides that support state-of-the-practice trail development.

### **Naming of Trail Segments**

One good way to name trail segments is to base the name on the significant natural features that are found within the area. For example, the Crabtree Creek Greenway in Raleigh, NC is so named because it follows Crabtree Creek. Greenways can also be named after an individual or individuals. Generally these people are distinguished local or statewide figures or they have contributed a substantial financial gift for the protection of the corridor or development of the trail. In some cases, existing local or state level guidelines will take precedence in how segments are named.

### **Land Management**

Property owned or used by local governments for the MST system should be maintained in a condition that promotes safety and security for trail users and adjacent property owners. To the extent possible, the property should also be maintained in a manner that enables the corridor to fulfill multiple functions (i.e. passive recreation, alternative transportation, stormwater management and habitat for wildlife). Property that is owned or managed by other entities should be managed and maintained in accordance with the policies of that particular public body.

Vegetation within each greenway corridor should be managed to promote safety, serve as wildlife habitat, buffer public trail use from adjacent private property (where applicable), protect water quality, and preserve the unique aesthetic values of the natural landscape. Removal of native vegetation shall be done with discretion, removal of exotic species should be accomplished in a systematic and thorough manner.

Vegetation adjacent to trails shall be managed as necessary to maintain clear and open lines of sight along the edge of the trail, and eliminate potential hazards that could occur due to natural growth, severe weather or other unacceptable conditions. To promote safe use of any greenway trail, all vegetation should be clear cut to a minimum distance of three (3) feet from each edge of a trail. Selective clearing of vegetation should be conducted within a zone that is defined as being between three (3) to ten (10) feet from each edge of a trail. At any point along a trail, a user should have a clear, unobstructed view, along the centerline of a trail, 300 feet ahead and behind his/her position. The only exception to this policy should be where terrain or curves in a trail serve as the limiting factor.



Local governments or their designated agents should be responsible for the cutting and removal of vegetation. Removal of vegetation by an individual or entity other than the local government or its designee shall be deemed unlawful and subject to fines and/or prosecution.

### **Safety and Security**

Safety is a duty and obligation of all public facilities. In order to provide a standard of care that offers reasonable and ordinary safety measures, a Safety and Security Program should be developed for the MST's land and water trail system. This program should consist of well defined safety and security policies; the identification of trail management, law enforcement, emergency and fire protection agencies; the proper posting, notification and education of the trail user policies; and a system that offers timely response to the public for issue or problems that are related to safety and security. The safety and security of the greenway system will need to be coordinated with local law enforcement officials, local neighborhood watch associations, and Adopt-a-Greenway organizations.

Important components of the safety and security program include the following. Local governments should:

- 1) work with law enforcement agencies to establish a MST Trail Safety and Security Committee that can meet periodically to discuss management of the MST system.
- 2) prepare a MST Trail Safety Manual and distribute this to management agencies and post it at all major trail heads.
- 3) post User Rules and Regulations at all public access points to MST trails.

- 4) work with the management agencies to develop Trail Emergency Procedures.
- 5) prepare a Safety Checklist for the MST system, and utilize it monthly during field inspection of greenway facilities.
- 6) prepare a Greenway User Response Form for complaints and complements and provide copies at all trail heads.
- 7) work with management agencies to develop a system for accident reporting analysis.
- 8) conduct a regular Maintenance and Inspection Program, and share the results of these investigations with all management agencies.
- 9) coordinate other Public Information Programs that provide information about greenway events and activities that residents can participate in.
- 10) Have an ongoing evaluation of MST program objectives.
- 11) Keep Pets on Leashes: All pets must be kept on secure and tethered leashes. Keep pets off of adjacent private property. Failure to do so will result in a fine.
- 12) Prohibition on Camp Fires: Fires, for any purpose, are prohibited within the MST Trails System. Any person caught lighting a fire for any purpose will be prosecuted to the fullest extent of the law.

### **User Rules and Regulations**

The Mountains-to-Sea Trail should be operated in a manner consistent with other local government parks along the route and should generally be open for public use from sunrise to sunset, 365 days a year. If this is not feasible in all locations, the alternate schedules of some sections should be posted broadly so that through hikers and local users are aware of these exceptional circumstances. Individuals who are found to be using unlighted facilities after dusk and before dawn should be deemed in violation





of these hours of operation and treated as trespassers. Where trails are lighted for nighttime use, special rules established within local or state level governing ordinances should be followed.

Local governments should always discourage the general public from using any segment of a greenway trail that is under construction. Trail segments should not be considered officially opened for public use until such time as a formal dedication ceremony and official opening has been completed. Individuals who use greenway segments that are under construction, without written permission from local governments should be deemed in violation of this access and use policy and treated as a trespasser. Remember to always recycle your trash.

### **Emergency Response Plan**

In order to effectively patrol the MST Trail system and respond to the potential for fire, floods and other natural or human-caused disasters, local governments should adopt a trail emergency response plan. This plan defines a possible cooperative law enforcement strategy for the MST Trail based on services that are typically provided by police, sheriff, fire and EMS agencies. Specifically, the MST trail should be provided with an address system that denotes specific locations along the length of a trail corridor. A site plan that illustrates points of access to each trail corridor should be produced and kept on file at the local government and provided to each EMS agency. Typically, inter-governmental agreements are executed for this. A system of cellular-type emergency phone should be located in remote sections of the MST Trail system if possible, providing users with access to the area 911 Emergency System. All emergency phones should be placed above the flood elevation to ensure long term usage.

The emergency response plan should also define the agencies that should respond to 911 calls, and provide easy to understand routing plans and access points for emergency vehicles. Local hospitals should be notified of these routes so that they may also be familiar with the size and scope of the project. The entire MST Trail system should be designed and develop to support a minimum gross vehicle weight of 6.5 tons.

### **Risk Management Plan**

The purpose of a Risk Management Plan is to increase safety for the users of the MST Trails System and reduce the potential for accidents to occur within the system or on lands adjacent to the system. While it is impossible to guarantee that all risk will be eliminated by a Risk Management Plan, implementation of a plan is in fact a critical step to reduce liability and improve safety. A Risk Management Plan establishes a methodology for greenway management that is based on current tort liability and case law in the United States related to the development, operation and management of public use greenway lands and facilities.

The ultimate responsibility for managing the greenway system, as defined within this Plan, rests with local governments. The Risk Management Plan has as its major goals:

- 1) Risk Identification: determining where risk (threat to safety or potential loss) exists within the corridor.
- 2) Risk Evaluation: conducting appropriate examination of areas defined as a risk and determining the factors that contribute to risk.
- 3) Risk Treatment: defining and implementing an appropriate solution to the area of risk in accordance with one of the four options:



- a) risk avoidance: prohibiting use of a risk area.
- b) risk reduction: limit use of area and repair risk area immediately.
- c) risk retention: obtain waivers from all potential users of the risk area.
- d) risk transfer: transfer risk area (property) to an agency better suited to manage the area.

The following sixteen step plan should be implemented by local governments for the MST Trails system.

- 1) Develop a policy statement about risk management.
- 2) Conduct a needs assessment for the greenway program.
- 3) Determine goals and objectives for risk management - what are acceptable and not acceptable management levels.
- 4) Develop specifications for site and facility development.
- 5) Establish a clear and concise program for risk management.
- 6) Define supervision and responsibility for risk management.
- 7) Define appropriate rules and regulations that govern the use of the trail system.
- 8) Conduct routine/systematic inspections and investigations of the trail system.
- 9) Develop an accident reporting and analysis system.
- 10) Establish procedures for handling emergencies.
- 11) Develop appropriate releases, waivers and agreements for use and management.
- 12) Identify best methods for insuring against risk.
- 13) Develop a comprehensive in-service training program for employees of the County.
- 14) Implement a public relations program that can effectively describe the risk management program and activities.

- 15) Conduct periodic reviews of the Risk Management Plan by outside agents to ensure that the Plan is up to date.
- 16) Maintain good legal and insurance representation.

### **Liability**

The design, development, management, and operation of the MST Trails System must be carefully and accurately executed in order to provide a resource that protects the health and welfare of the public. To reduce the possibility and exposure to liability, local governments should have in operation the following measures prior to opening the first segment of greenway:

- 1) a thorough Maintenance Program that provides the appropriate duty or level of care to greenway users;
- 2) a Risk Management Plan that appropriately covers all aspects of the greenway system, and as necessary adjacent landowners;
- 3) a comprehensive working knowledge of public use laws and recent case history applicable in North Carolina.

Local governments existing self-insurance programs may be adequate to protect these governments from financial loss that might occur through the development and operation of the MST Trail system. The MST Trail System presents no greater liability to local governments than existing park and recreation resources. Local governments should review their current policies and check coverages to be certain that all aspects of its policies are up to date.



## Appendix D: Spur Trails

### WAYNE COUNTY:

Proposed Access Point #5. Stevens Mill Road Bridge, Route 1008 crossing. (90). In gap between State Route 1224 Bridge Ramp and US 117 Ramp. 9 miles downstream from State Route 1224 Bridge Ramp.

Cliffs of the Neuse State Park Proposed Canoe Camp. (110). Potential future location of access point.

### LENOIR COUNTY:

Proposed Access Point #6. Hardy Bridge Road, Route 1389 crossing. (128). In gap between Seven Springs Ramp and US 70 Ramp. 7 miles downstream from Seven Springs Ramp.

### CRAVEN/PITT COUNTY:

Proposed Access Point #7. Off connector road from Hwy 55. (164). Near transition from Rolling Coastal Plain to true Coastal Plain. In gap between Albritton's Landing and Maple Cypress Landing. 10 miles downstream from Albritton's Landing.

### Spur Trails

### WAKE COUNTY AND JOHNSTON COUNTY:

Marks Creek to Lake Myra (4.8 miles). Trail runs North from Neuse River/MST corridor in Johnston County up Mark's Creek to Lake Myra in Wake County.

Clayton Loop (11.6 miles). Near Wake and Johnston County border, runs West from the Neuse along Beddingfield Creek, follows Little Creek South to Clayton, and back to the East on NC Hwy 42 to the Neuse/MST corridor, 5.7 miles downstream from origin.

Clayton East (3.8 miles). Trail runs directly from East (Neuse) along unnamed creek into downtown Clayton and ends at the Clayton Loop, proposed spur trail.

Smithfield NE Loop (6.9 miles). Follows US Hwy 70 South, Mill Creek, and Noble St. to Brightleaf Blvd (US Hwy 301). Runs WSW on Brightleaf Blvd into Smithfield, turns on Bridge St back to the Neuse/MST corridor, 3.4 miles downstream.

Smithfield NE Loop Mill Creek Extension (1 mile). Extends along Mill Creek past Noble St. Turns North on River Rd. and ends at Buffalo Rd.

Smithfield NE Loop Booker Dairy Rd. Extension (1.2 miles). Follows Booker Dairy Rd. North off Brightleaf Blvd. Ends by tying into proposed Smithfield Greenway system at NE corner of Smithfield.





NC Hwy 210 Smithfield West (6.2 miles). Follows NC Hwy 210 West from Neuse/MST corridor in Smithfield and turns NW along Middle Creek.

NC Hwy 210 Smithfield West Cleveland-Crantock Rd. Extension. (4.1 miles). Extends WNW along Cleveland-Crantock Rd. from Hwy 210 split.

Brogden Rd. Parallel (15.6 miles). Extends from Smithfield Riverwalk, SE along Brogden Rd, parallel to the Neuse (to the North and East), before eventually turning South to the Neuse/MST corridor on Richardson's Bridge Rd.

Mill Creek Parallel (14 miles). Begins at unnamed creek about 5 miles South of Smithfield, runs parallel to the Neuse (to the South and West), joins Mill Creek, and follows Mill Creek back to the Neuse at the Johnston/Wayne County border. Rejoins the Neuse/MST corridor 20 miles downstream.

Neuse to Mill Creek Parallel Connector (2.3 miles). Follows unnamed creek from Neuse south to Mill Creek Parallel spur trail.

### *LENOIR COUNTY:*

NC Hwy 55 – NC Hwy 11 Parallel – Kinston (16 miles). Drops South from Neuse/MST corridor at Piney Grove Rd to NC Hwy 55 near the Wayne/Lenoir County line. Follows NC Hwy 55 east, running parallel to the Neuse from the South. Extends to Kinston where it begins to follow NC Hwy 11 until its end into a Town of Kinston proposed trail.

NC Hwy 55 Parallel Hardy Mill Extension Loop (3.1 miles). Follows Hardy Mill Run North to Trotter's Creek where it loops

back down to the NC Hwy 55 Parallel spur trail.

Follows Trotter's Creek South from NC Hwy 55-NC Hwy 11 Parallel Spur Trail. Continues along Jack's Branch until Liddell Rd where it turns southeast. Turns north on Southwest Creek to Smith-Grady Road. Follows Smith-Grady Road back West where it comes to the trails origin at Trotters Creek.

Falling Creek-Mosely Creek Trail (15.7 miles). Follows Falling Creek NW from Kinston. Meets and follows Mosely Creek to the West and the town of La Grange. Meets with State Highway 903 and turns South through La Grange.

Falling Creek-Mosely Creek Extension (2 miles), Kinston. Turns North along unnamed creek immediately after start of Falling Creek-Mosely Creek Trail and runs to railroad right-of-way near a Town of Kinston proposed trail.

Yadkin Branch/Airport Extension Trail (2.9 miles). Extends Town of Kinston proposed trail north along Yadkin Branch beyond railroad to Airport Road for access to the northern side of Kinston and the airport area.

### *CRAVEN, PITT, AND JONES COUNTIES:*

NC Hwy 55 Parallel - New Bern (33.9 miles). Begins at NC Hwy 55 bridge crossing over Neuse about 4 miles Northeast of Kinston. Crosses into Craven County and runs along NC Hwy 55 parallel to the Neuse to the South to New Bern. Rejoins Neuse/MST corridor 39 miles downstream.

Biddle Road Spur Extension (1.6 miles). Follows Biddle Road North off NC Hwy 55 Parallel South back towards the Neuse.



Core Creek Extension (3.7 miles). Follows the meandering Core Creek North off NC Hwy 55 Parallel South back towards the Neuse.

McCoy Branch-Mill Run Extension (2.3 miles). Follows McCoy Branch to Mill Run back North to the Neuse.

Greenville Spur Trail (14.9 miles). Runs Northwest from Neuse/MST corridor along Contentnea Creek and the Lenoir/Pitt County border. Turns North at railroad-right-of-way to its completion in Greenville.

Swift Creek Parallel (32.3 miles). Runs from Greenville Spur Trail, parallel and North of the Neuse, along Swift Creek to its intersection with the Neuse/MST corridor. Follows the Pitt/Craven County border for a few miles before completely entering Craven County.

Beaver Dam - Maple Cypress Extension (4.7 miles). Extends South from Swift Creek Parallel at Beaver Dam Rd. crossing. Follows a series of roads (State Hwy 118, Bay Bush Rd., Nelson Rd.) until it reaches Maple Cypress Rd. where it meets the Neuse/MST corridor.

Bachelor Creek Trail (16.3 miles). Trail begins at Bachelor Creek entrance to the Neuse River about 3 miles North of New Bern. Crosses the NC Hwy 55 Parallel - New Bern Trail. Loops around the western side of New Bern, entering Jones County. Meets and briefly follows State Route 1330 to Scott Creek where it ends at the Trent River – Mill Creek Trail.

Trent River – Mill Creek Trail (23.6 miles). Trail begins at the

southern end of New Bern at the Trent River. Follows the Trent River West and along the Jones/Craven County border. Meets the Bachelor Creek Trail and moves South to Mill Creek. Follows Mill Creek south and back to the east along unnamed creeks to its end into the Catfish Lake Rd. Trail.

Catfish Lake Rd. Trail (19.2 miles). Begins at Catfish Lake Rd. crossing of the main MST Trail, 4 miles north of Havelock. Runs WSW along Catfish Lake Rd. into Jones County and just past State Highway 158.



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## Appendix E: Trailhead Design Standards

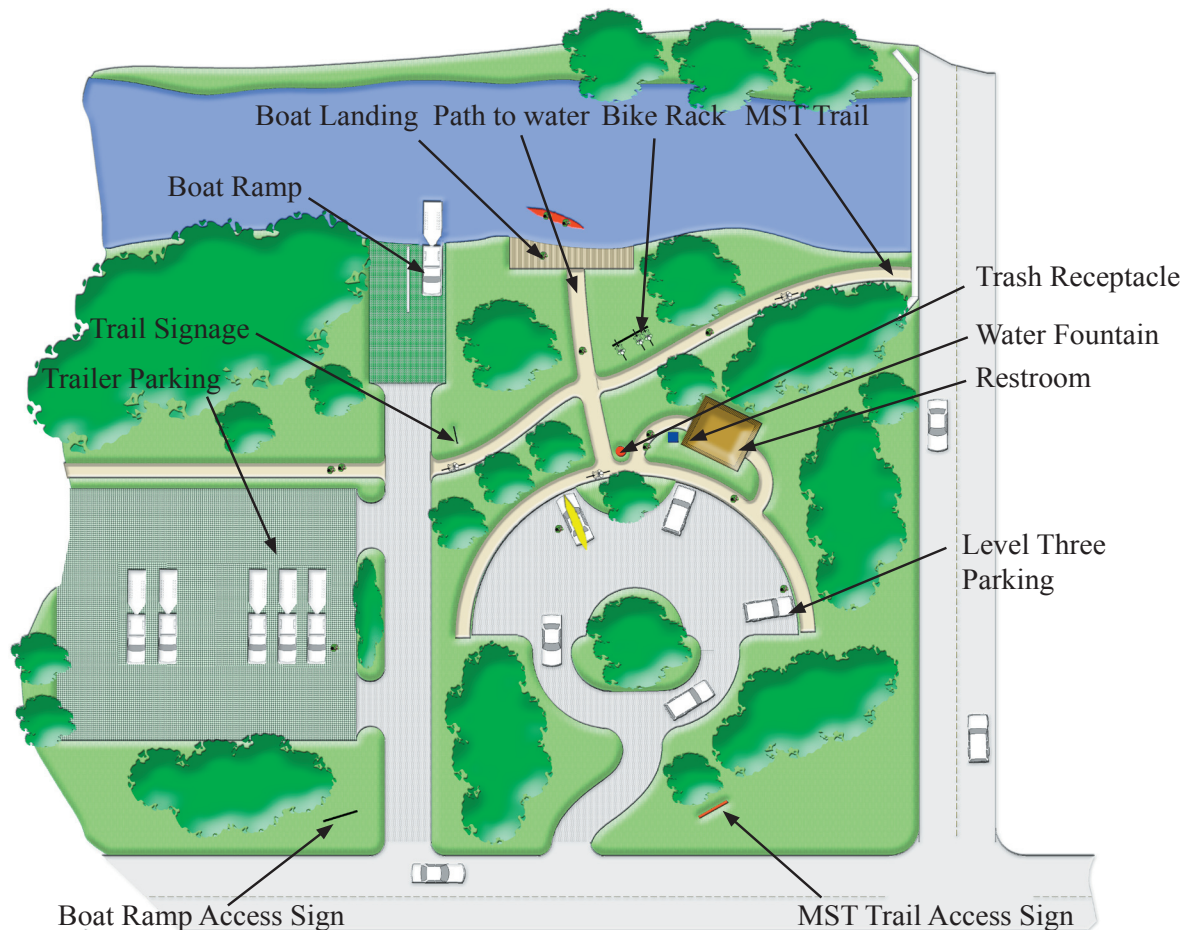
The illustrations on the following pages should be used as design standards for the development of the MST-East trailheads. These facilities serve as staging areas and rest areas for trail users and should be developed in a manner consistent with the trail type and the terrain that is being traveled. The size of each facility, its land requirements, parking spaces and utility requirements will depend on projected use for each specific area. The following are descriptions of 3 trailhead types and, as a minimum, what facilities each one should include.

### LEVEL III: HIGHLY DEVELOPED

A level III trailhead is designed for placement at the beginning and end of the most highly used segments. Many portions of the MST-East will not receive the level of use that warrants this degree of facility development. In general, level III trailheads should be used on routes that connect major destination points such as Cliffs of the Neuse State Park and the City of Kinston. Level III trailheads are also desirable on routes that are likely to accommodate public events such as races or charity walks. The facilities that are provided at a level III trailhead are:

1. Restrooms.
2. Accessible Parking. (Special considerations should be given to how horses are accommodated on multi-use trails and where

- users may park trailers. Conflict with other trail users should be minimized.)
3. Designated improved boat and/or canoe launch that includes a paved boat ramp.
4. Drinking fountains and (watering device for horses on



Level Three



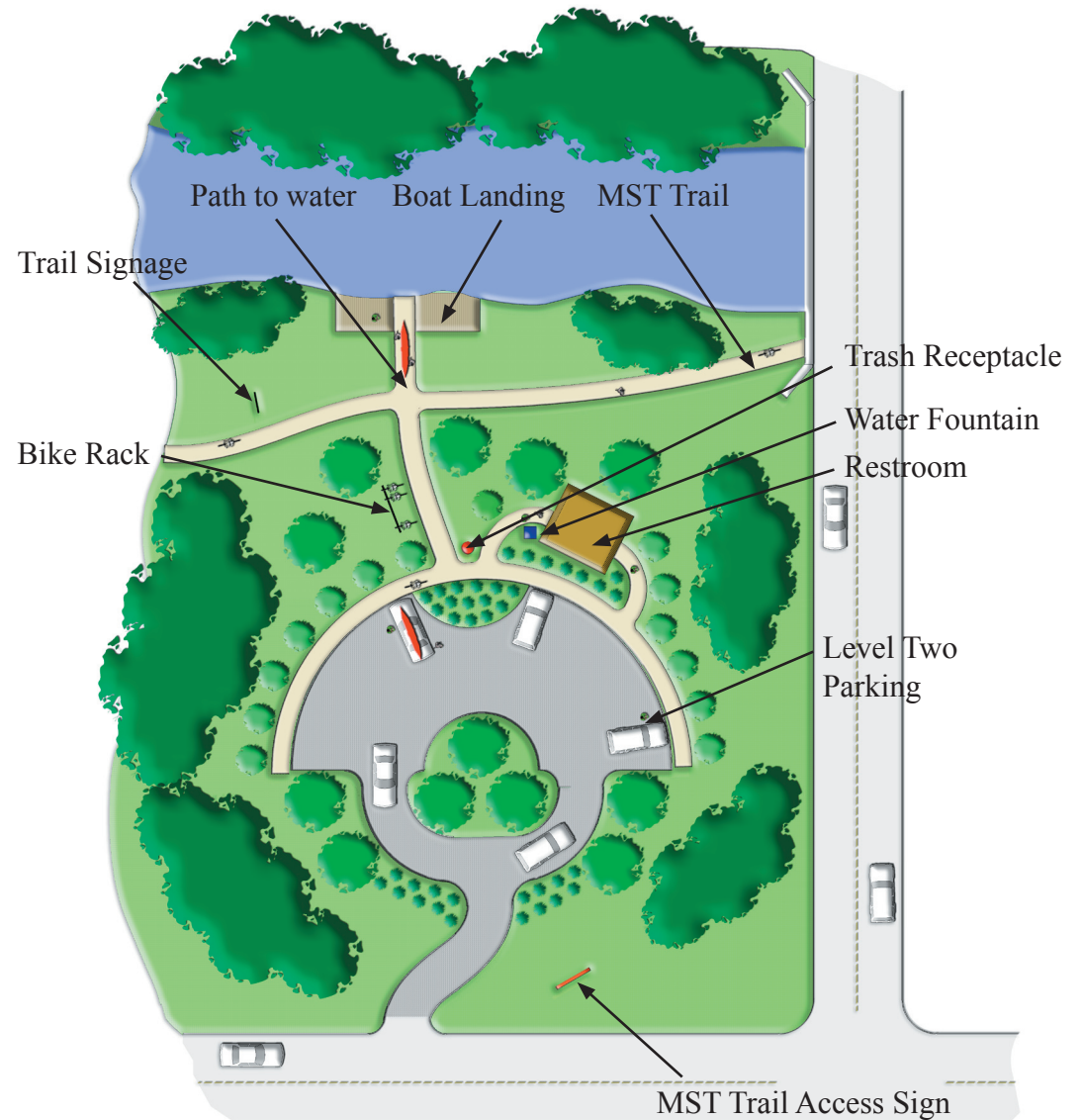
equestrian routes)

5. Telephone(s) for emergency and coordination of events
6. Seating (benches)
7. Lighting
8. Trail and Informational signage (i.e. wall mounted on freestanding kiosk)
9. Bicycle racks
10. Shade (i.e. structures/ plant material)
11. Waste receptacles
12. Landscaping
13. Overflow parking allowances
14. ADA accessibility

### LEVEL II - MODERATELY DEVELOPED

The level II trailhead provides fewer accommodations than the level III facility, but is still designed to accommodate fairly heavy use. Level II trailheads should be located at major trail connections or intersections. The facilities that are provided at these trailhead are:

1. Permanent or portable restrooms.
2. Accessible Parking. (Conflict with other trail users should be minimized.)
3. Designated boat launching area, paved when feasible.
4. Seating
5. Trail and Informational signage (i.e. wall mounted kiosk)
6. Bicycle racks
7. Shade (i.e. structures/ plant material)
8. Waste receptacles
9. Landscaping



Level Two



### LEVEL I: MINIMALLY DEVELOPED

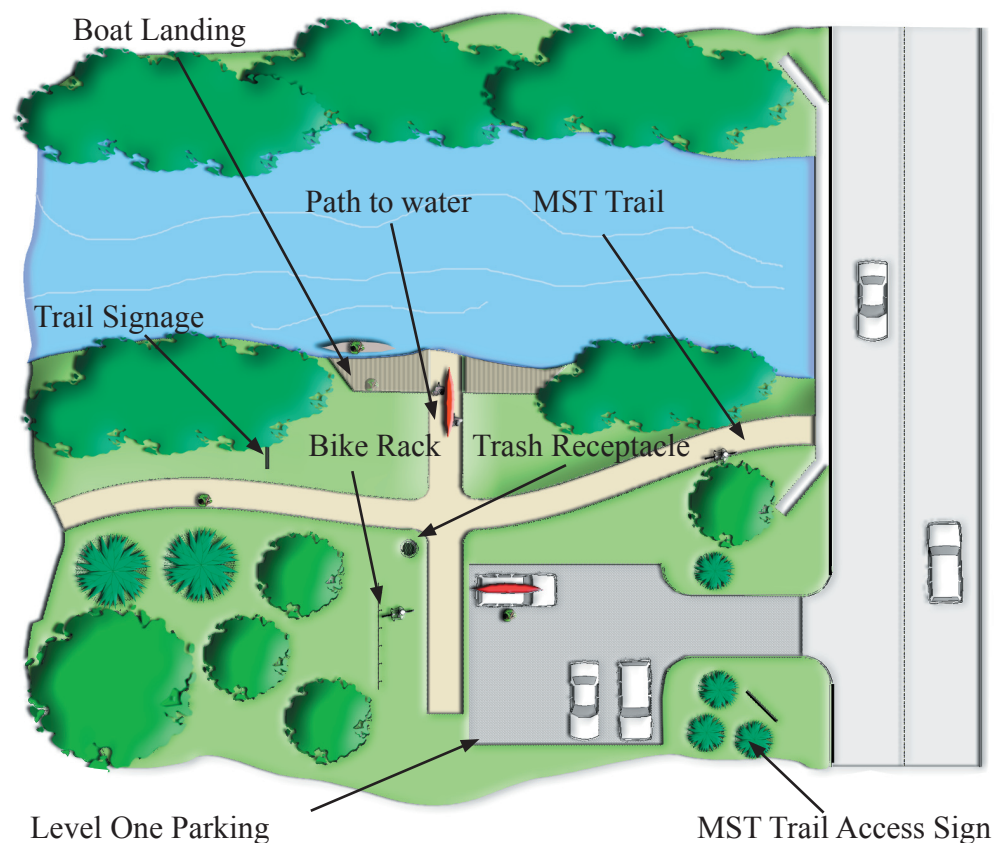
This type of trailhead provides a minimum level of facility development and should be located at minor trail connections. If the site conditions are appropriate, 4-10 parking spaces may be included. The exact number of spaces should be based on the expected use. The facilities that are provided at a level I trailhead are:

1. Accessible Parking (where warranted)
2. Designated Canoe launching area (unimproved)
3. Trail signage
4. Waste receptacle
5. Minimal landscaping

All trailhead design criteria must comply with the following:

- The American Association of State Highway and Transportation Officials (AASHTO);
- Americans with Disabilities Act (ADA)
- Local Building Codes;
- Trailhead Ingress/ Egress geometric designs compliant with the Federal Highway Administration and AASHTO; and
- NCDOT standards based on Annual Average Daily Traffic

At any developed trail head, the parking lots should be placed at least 50' from the rivers edge to minimize runoff and thermal pollution. All parking areas should be gravel or, if permanently surfaced, should be made of permeable materials. Finally, the potential for flooding and the impacts of such an event should be considered when determining the location of any trailhead near the river.



Level One





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## Appendix F: Trail Alignment Methodology

The consultant was contracted to provide a suggested trail alignment for the MST-East. The trail alignment was to run within 1000 feet on either side of the Neuse River. The steps below were used to determine the alignment proposed in this document and were approached in a cyclical fashion, often jumping from one step to another, and then back a step or two before moving ahead again.

### Methodology

#### Step 1: Primary Opportunities

Our first goal was to create connectivity between existing protected open spaces. Examples include State Parks, local parks, and planned trail segments. GIS-data was collected from each of the counties whose jurisdiction falls within the study area.

#### Step 2: Primary Constraints

It is clear to all that some areas simply will not be acceptable locations for the trail. Some examples include military bases, airports, and obstructive topography such as steep slopes or wetlands.

#### Step 3: Secondary Opportunities/Constraints



*The diagram above is presented to help the reader visualize how this 6-step decision process was used. It shows that the process was not always linear. In most circumstances the steps looped back upon themselves.*



Following a review of primary opportunities and constraints and initial determinations based on those assessments, we reviewed secondary opportunities and constraints. The secondary items are generally not items that must be connected or must be avoided, but tend more toward preferred sites and preferred areas to avoid. Some examples include: Opportunities – Large/single-owner tracts, Schools; Constraints – Subdivisions with small parcels, Industrial areas.

### Step 4: Downstream Connectivity

As decisions were made regarding ideal location, we tried to also keep eventual downstream connectivity in mind, often looking several miles downstream to see where idea crossings were or where interesting spur trails could be located. These downstream decisions helped affect the upstream locations.

### Step 5: Land Use

In decisions not made clear through earlier steps, a hierarchy of preferred land use was created. In order of preference, the land uses are: Undeveloped land, Institutional/Public land, Light Residential/Light Commercial lands, Heavy Residential areas, Heavy Industrial areas.

### Step 6: Roadway Alternatives

In areas where it seemed highly unlikely that either side of the buffer area would offer an acceptable route, we chose to look for an alternative route that would take the user along a nearby roadway for a short distance.





## Mountains to Sea Trail Eastern Segment

### Notes from the First Meeting

As part of a series of three scheduled task force meetings, our first meeting was held November 20 with great success. We had some excellent comments and shared enthusiasm! Below are a list of comments we received and discussed as part of the Western Section Task Force Meeting (Wake and Johnston Counties).



*Dr. Phil McNelly, Director of NC Division of State Parks addresses the MST Western Section Task Force at its November 20 meeting in Raleigh.*

#### NC Division of State Parks :

- MST will become the back-bone of the State Trail system and will serve as a spine that other municipalities will want to link into.
- Most of MST has been built in the western part of NC, with public property acquisitions.
- Envision MST Eastern Segment as a true multi-use trail system that parallels the Neuse River corridor as a land-based and water-based system of trails.
- There is a need for public and private support. This includes partnerships with volunteers, land trusts, local and county governments, in conjunction with state and federal agencies.
- State's role is as a facilitator for funding and partnerships with local governments.
- Funding help can come from State and Federal sources: ie. Division of State Parks, Clean Water Management Trust Fund, TEA-21, etc.
- Existing MST State Act is a part of the NC State Park System - because of the size of the project, this will only serve where local and county plans have no reach or are so called "doughnut holes."
- MST will primarily be in local and county ownership.
- The State can help both local and County governments with securing easements.
- People want trails within a 15 minute walk of populated areas.
- The NC One Naturally Project (formerly the Million Acre) sees the MST corridor as a source for its program..

#### Wake County:

- Raleigh has already acquired a large amount of land along the Neuse River corridor.
- Raleigh's Neuse River corridor is broken into two sections a northern and middle that begins at Falls Lake Dam and ends at Poole Road for a total trail system of 16 miles. Raleigh wants to see trail development on both sides of Neuse River throughout this length.
- Raleigh does not have plans to change current foot path surface on south side of Falls Lake.
- There is a need to identify users types and accommodate as many users as possible.
- Need for a trail on both sides of the corridor for different users (especially near Falls Lake).
- Acquisition of property for the trail is being pursued on Honeycutt Creek.
- Neuse River corridor has become a major trail project for Raleigh.
- Wake Forest and Knightdale would like to tie into the trail system.
- Wake County as part of their Open Space and Greenways Plan is has linked into the Neuse corridor through local and a County wide plan. County wants a shared regional park with Johnston County.
- There are planned and existing boat (canoe) put ins and take outs.
- The City of Raleigh will provide GIS information on their greenway trail system for the MST project.

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- There are planned and existing boat (canoe) put ins and take outs.
- The City of Raleigh will provide GIS information on their greenway trail system for the MST project.





## Mountains to Sea Trail Eastern Segment

### Notes from the Second Meeting

As part of a series of three scheduled task force meetings, our second meeting was held December 4 with great input. We had some excellent comments and shared enthusiasm! Below are a list of comments we received and discussed as part of the Middle Section Task Force Meeting (Wayne, Lenoir and Pitt Counties).

#### NC Division of State Parks (items restated for second meeting attendees):

- MST will become the back-bone of the State Trail system and will serve as a spine that other municipalities will want to link into.
- Howard Lee championed the MST idea in the early 1970's.
- Current MST eastern segment was identified through a series of three meetings held last year with the purpose to gain interest and folks willing to become part of the current task force sections.
- Envision MST Eastern Segment as a true multi-use trail system that parallels the Neuse River corridor as a land-based and water-based system of trails.
- There is a need for public and private support. This includes partnerships with volunteers, land trusts, local and county governments, in conjunction with state and federal agencies.
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- MST will primarily be in local and county ownership.
- The State can help both local and County governments with securing easements.
- People want trails within a 15 minute walk of populated areas.
- The NC One Naturally Project (formerly the Million Acre) sees the MST corridor as a source for its program..



The MST Middle Section Task Force at its December 4 meeting in Kinston.

#### Wayne County:

- Neuse Trails Association (NTA) has been very active in the Goldsboro area, and they continue to work with FMST.
- NTA has found that Neuse River private property owners in Goldsboro are favorable to MST.
- There are a small number of private homes along the Neuse River that will have to be accommodated or worked around for the primary MST.
- A foot trail has been cut for along Stoney Creek which links to the Neuse River via Arrington Bridge Road, where it links into a 0.6 mile foot trail along the Neuse River.
- Cherry Hospital has trails and they now can link into the Stoney Creek foot trail.
- There is a need to link the main Neuse River Trail into the existing Civil War Battlefield sites.
- Themes can become an important venue to pay homage to each section or local segment of the overall MST trail system.
- Local outfitters should be contacted to help with trail segments, which could include sponsorship, trail maintenance and promotion.

#### Lenoir County:

- Kinston-Lenoir County was used as a case study for innovative floodplain management as part of a FEMA study for the Neuse River. A copy of the CD was made available that contains excellent information for this section of the River as it flows through Kinston.
- Kinston-Lenoir County also provided a copy of their 2002 Lenoir County Green Infrastructure Plan.
- The Green Infrastructure Plan details trails along the Neuse River on both sides in Kinston, and other important links. This type of planning effort is a prime example of how the Cities of Kinston and Raleigh have worked with their Counties to plan an important segment of the MST corridor.
- Lenoir County has agreed to provide GIS information for the MST Plan.
- Over 1,100 flood prone properties have been identified and will become available due to buy out program.
- The County is currently working with DNER in flood clean-up and moving existing damaged property owners out of floodplain.
- Existing Sewer Plant in Kinston will be closed, and land will become available.
- The County is looking at ideas of what to do with the buy out properties. One idea is to turn buy out properties into an Educational State Forest.
- A 300 acre ATV park is being planned for area in and around the Nature Center in Kinston. (See Green Infrastructure Plan for details).
- There is a need to link the minor league baseball stadium via Adkin Branch (a tributary of the Neuse).
- Spur trails are needed to link the Historic millponds such as Kellys, and Tulls via Southwest Creek, and the CSS Neuse.



Round table discussion to identify important attributes of the MST corridor.

#### Pitt County:

- Provide link to Greenville are via the MST.
- Important to link to areas outside of MST 1000 foot plan boundary.
- There is a need for a wayfinding system for the whole MST system.

#### Friends of the Mountains to Sea Trail (FMST):

- There is a need for locating places where users can go for food and overnight stays while using the trail.
- Through hikers can spend up to \$3,000/ trip - which can be viewed as an economic boost.
- NC Bike routes 2 & 7 currently mirror the proposed Eastern Segment of the MST.

## You Are Invited!

Be a part of a series of three MST Task Force member information meetings that feature the presentation of data collected in the corridor for review and comment. We had some excellent comments from our first and second meetings. Please come to the third meeting! The Third meeting will be held at the Eastern Carolina Council of Governments in New Bern, located in New Bern on Monday, December 16, 2002 from 9:30 am to 12:00 noon. A brief presentation will be given at each meeting, followed by a question-and-answer, and workshop session. We hope to see you all there!

#### Need More Information?

Contact: Chuck Flink, President, Greenways Inc.  
E-mail: flinke@aol.com  
or: David Josephus, Project Manager, Greenways Inc.  
E-mail: Dave.josephus@greenways.com



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INCORPORATED  
Landscape Architecture  
Multi-Objective Trail Planning  
Open Space Planning





## Mountains to Sea Trail Eastern Segment

### Notes from the Third Meeting

As part of a series of three scheduled task force meetings, our third meeting was held December 16 with great input and attendance. We had some excellent information on what is currently planned and in place in this section. Below are a list of comments we received and discussed as part of the Eastern Section Task Force Meeting (Craven, Pamlico and Carteret Counties).

#### NC Division of State Parks (items restated for third meeting attendees):

- MST will become the back-bone of the State Trail system and will serve as a spine that other municipalities will want to link into.
- Howard Lee championed the MST idea in the early 1970's.
- Current MST eastern segment was identified through a series of three meetings held last year with the purpose to gain interest and folks willing to become part of the current task force sections.
- Envision MST Eastern Segment as a true multi-use trail system that parallels the Neuse River corridor as a land-based and water-based system of trails.
- There is a need for public and private support. This includes partnerships with volunteers, land trusts, local and county governments, in conjunction with state and federal agencies.
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- Funding help can come from State and Federal sources: i.e., Division of State Parks, Clean Water Management Trust Fund, TEA-21, etc.
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- MST will primarily be in local and county ownership.
- The State can help both local and County governments with securing easements.
- People want trails within a 15 minute walk of populated areas.
- The NC One Naturally Project (formerly the Million Acre) sees the MST corridor as a source for its program.

#### Craven County:

- There are a number of existing boat ramps that currently serve users of the Neuse River.
- Brice's Creek has an excellent paddle trail and ramp.
- Creekside Park has some existing trails and a planned canoe launch.
- Primitive camping is needed along the paddle/hiking trails.
- There are existing trails at Glenburnie Park.
- There is a trail along Lawson Creek.
- City of New Bern has a canoe launch at Harbor Drive.
- The City of New Bern has a greenway and trail Master Plan under way, no time line has been set for completion.
- The City of New Bern has an existing Waterfront Park along the Neuse.
- North Carolina Coastal Land Trust has been working with private land owners along the Neuse River north of New Bern; Dover Bay pocosin restoration and Cool Springs (a Weyerhaeuser property), and Turkey Island.

#### Pamlico County:

- Three paddle trail maps have been produced with over 300 miles available in the county,



The MST Eastern Section Task Force at its December 16 meeting in New Bern.

- Some areas feature primitive camping.
- The county is working on a cycling plan with trails (no time line has been determined for competition).
- NC 55 widening project will include 4 foot wide bike lanes.
- History and heritage are very important.

#### Carteret County:

- There are 19 miles of land based walking and hiking trails planned or existing as part of the Morehead City Alternative Transportation (MATs).
- Sugar Loaf Island has hiking trails.
- There are new boat ramps at 10th Street.
- Morehead City and Beaufort are working together to have a water based trail system. Funding is coming through CAMA.
- The Crystal Coast Kayak Club has produced two excellent maps with a third one on the way for paddle trails. They include map one: the Western Carteret Co. White Oak River Area and Bear Island Trails, map two: the Western Carteret Co. Bogue Sound and Newport River Trails, and map three: (not yet printed) Eastern Carteret Co.
- The maps are very easy to read and provide excellent information on launches and distances.



Round table discussion to identify important attributes of the MST corridor.

#### Pitt County:

- There is interest in greenway expansion along the Tar River that could link into the MST.
- They are developing the Coastal Carolina Rail -Trail.
- Buy-out of flood prone properties continues along the Tar River.
- In Grifton Park there are primitive camping sites and boat access along the creek and trails.

#### Onslow County:

- The County is very interested in the MST corridor and would like to link to important areas such as Jacksonville and Hoffman Forest.
- Richland Creek has a paddle trail in place.
- Jacksonville is developing a Waterfront Park with trails.
- There is an acquisition of an additional 372 acres for the northern section of Hoffman Forest, and there exists the possibility of trails in this section that could link into the MST.

#### The Conservation Reserve Enhancement Program

- The Conservation Reserve Enhancement Program, or CREP, is a joint, State-Federal land retirement conservation program that addresses State and nationally significant environmental issues related to agriculture. The North Carolina CREP was developed to help protect the Albermarle-Pamlico Estuarine System (APES) from the effects of excessive nutrient and sediment loading due to agricultural runoff.
- CREP can also help with getting agricultural easements to protect water quality (the Neuse could be patterned after the very successful Roanoke River program).
- The Clean Water Management Trust Fund provides funding for CREP programs.
- Farms have the opportunity to lease farm buildings for the use as overnight accommodations to help promote Agri-tourism.
- The Eastern Carolina Council RPO's (Rural Planning Organization) have formed 4 and 5 county planning commissions have been organized to represent the rural areas, and they are interested in the MST.

#### Need More Information?

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Landscape Architecture  
Multi-Objective Trail Planning  
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## Mountains to Sea Trail Eastern Segment

### Notes from the Second Spring Meeting 2003

As part of a series of three scheduled spring task force meetings, our second meeting was held March 17. This meeting was the first chance for members of the task force to review the MST trail alignment. Below are a list of comments we received and discussed as part of the Middle Section Task Force Meeting (Wayne, Lenoir, and Pitt Counties).

#### NC Division of State Parks: (Recap on Priorities)

- The MST trail will become the backbone of the State Trail System and will serve as a spine that other municipalities will want to link into.
- There is a need for both public and private support to make the vision of the MST a reality. This includes partnerships with volunteers, land trusts, local and county governments, in conjunction with state and federal agencies.
- The State of North Carolina's role is as a facilitator for funding and partnerships with local governments.
- Funding sources and help can come from the State and/or Federal sources; i.e. Division of State Parks, Clean Water Management Trust Fund, TEA-3 (formally TEA-21), etc...
- The existing MST State Act is a part of the NC State Park System - because of the size of this project, this will function where local and county plans have no reach or are the so called "doughnut holes."
- The State can also help both local and county governments with securing easements.
- The NC One Naturally Project sees the MST corridor as a source for its program.



#### General Discussion:

- The need to accommodate equestrian users for some sections of the primary (if possible) and/or secondary trails is desired. There are a lot of horse enthusiasts in the three county area of the Middle Section.
- Kinston has planned a heritage tourist trail that would be ideal to connect into the MST trail system.
- A common theme from both the first meeting (Western Section) and this meeting was the need to connect to historic battlefields sites and markers. Many Civil War enthusiasts have already volunteered a lot of time and effort in planning a Civil War Historic trail that could link into the MST trail system.

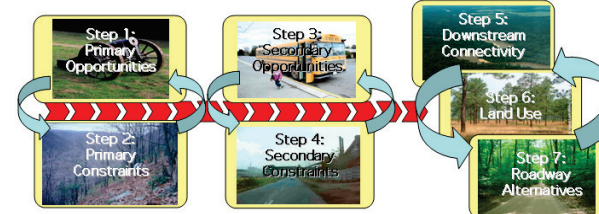
- Schools should remain a focal point when looking at links to the MST trail system.
- The Town of Grifton is an ideal link by a canoe trail or a possible land trail by land they are currently hoping to purchase near Town Park.
- Southwest Creek that flows out of Tulls Mill Pond and empty's into the Neuse River, would provide an excellent canoe trail and possible hiking link into the future Kinston trail system, while providing a link into the primary MST trail.
- There is interest into linking the main MST trail into Greenville via Little Contentnea Creek.
- The success of the meeting was like the first meeting, task force members helped to make additional suggestions to the trail alignment and for some additional options or uses.



#### Three Pilot Projects have been identified for the initial first phase of the MST trail:

- From Poole Road (Wake County) to Smithfield (Johnston County)
- Cliffs of the Neuse State Park to Kinston (Lenoir County)
- New Bern to Croatan National Forest (Craven County)

#### TRAIL ALIGNMENT METHODOLOGY



- 1. Primary Opportunities
  - Existing Greenways
  - Parks
  - Protected Open Space
- 2. Primary Constraints
  - Airports
  - Obstructive Topography (steep slopes, wetlands)
  - Military Bases
- 3. Secondary Opportunities
  - Large single-owner Tracts
  - Farmland
  - Schools
  - Public Land
- 4. Secondary Constraints
  - Subdivisions with Small Parcels
  - Industrial Areas
  - Environmental Concerns
- 5. Downstream Connectivity
  - River Crossings
  - Downstream Opps/Constraints
- 6. Land Use (order of preference)
  - Undeveloped Land
  - Institutional/Public Lands
  - Light Residential/Light Commercial
  - Heavy Residential
  - Heavy Commercial
- 7. Roadway Alternatives
  - Roads That Loop Around Constraint and Return to River

#### MST Trail (Primary) Length (miles)

Falls Lake Dam to Poole Road	18.0
Poole Road to Smithfield	28.0
Smithfield to Goldsboro	46.0
Goldsboro to Kinston	34.0
Kinston to New Bern	38.0
New Bern to Havelock	33.0
Havelock to Cedar Island	48.0

**Total Length ( approx.) 245.0**

## You Are Invited!

Be a part of the last meeting that will feature the presentation of data collected and MST trail alignment in the corridor for review and comment. Please come and give us your comments! The meeting will be held in New Bern on Monday March 31, at the Eastern Carolina Council of Governments from 9:00am to 12:00 noon. A brief presentation of the methodology will be given, followed by a question and answer/ workshop session. We hope to see you there!



## Mountains to Sea Trail Eastern Segment Eastern Zone Task Force Section

### Why a Mountains to Sea Trail?

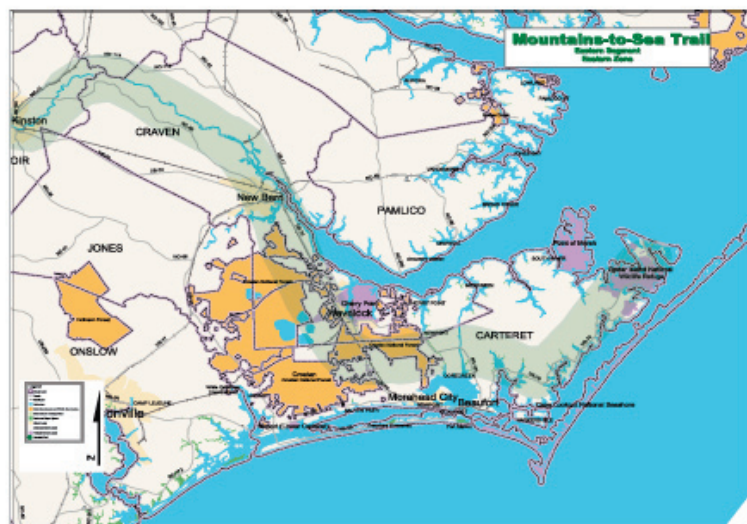
The Mountains to Sea Trail (MST) will allow users to safely walk or canoe from Falls Lake Dam in Wake County to Cedar Island in Carteret County. The trail will generally follow the Neuse River as both a land-based and water-based trail system.

The Mountains to Sea Trail, Eastern Segment Eastern Zone includes Craven, Pamlico and Carteret Counties, and is envisioned as a high quality recreational facility and community amenity.

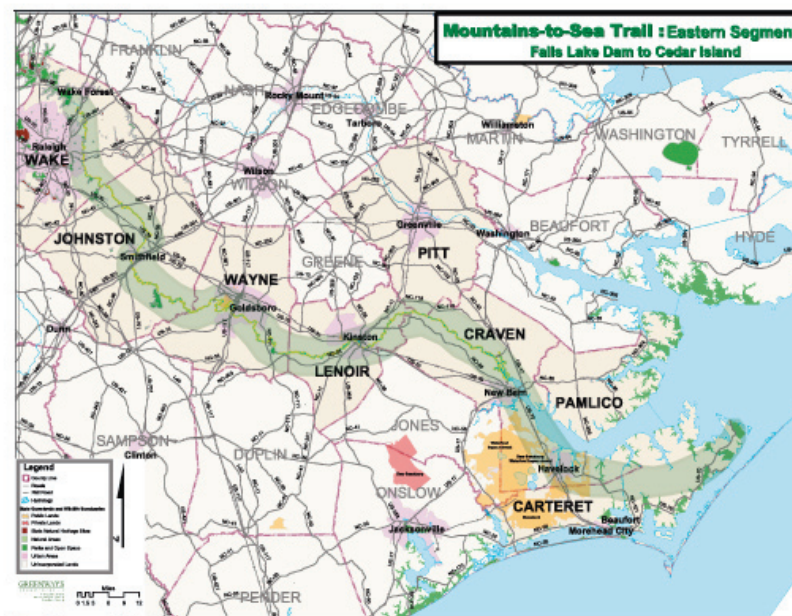
The trail will provide a safe and enjoyable option for hikers and water-based users to access area community parks and greenways, residential neighborhoods, businesses and amenities. The trail is a piece of the Mountains to Sea Trail Master Plan that will one day connect the western mountains and communities with their eastern counterparts along the North Carolina coast. This Master Plan is funded by the North Carolina Division of Parks and Recreation, State Trails Program.

### You Are Invited!

A MST Task Force member information meeting will feature the presentation of data collected in the corridor for review and comment. The meeting will be held on Monday, December 16, 2002 at the Eastern Carolina Council of Governments, located in New Bern from 9:30 am to 12:00 noon. A brief presentation will be given, followed by a question-and-answer, and workshop session.



The map below locates the Eastern Section of the Mountains to Sea segment and shows the Trail from the Pitt County limits with the ending point near Cedar Island in Carteret County.



Overall Map of the proposed Mountains to Sea Trail System from Falls Lake Dam in Wake County to Cedar Island in Carteret County North Carolina.

### Project Outline

**2001** - A vision is formulated for a trail segment of the Mountains to Sea State Trail system that would connect Falls Lake Dam to Cedar Island.

**July 2002** - Consultant **Greenways Incorporated** selected to begin work on trail system that will focus on both a land-based and water-based trail system generally along the Neuse River.

**Present** - A methodology for evaluating land trail options and paddle trail access areas for a land and water trail that follows the Neuse River Corridor beginning at the Falls Lake Dam in Wake County to Cedar Island in Carteret County continues. Criteria includes, but is not limited to the:

- Identification of governmental agencies and jurisdictions along the corridor.
- Parks and Recreational facilities and their capacity to support and participate in the trail system.
- Identification of all land uses and land coverages within the 100-year flood plain of the Neuse River (up to a maximum of 1000 feet from the river banks).
- Identification of planned, proposed, and existing trails, and potential linkages between systems.
- Identification of topography and water bodies associated with the study corridor.

### Need More Information?

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## Appendix H: Using GIS Technology

GIS (Geographic Information Systems) provides an excellent means of capturing important natural and human made features across a large regional landscape. The layering of this information into one map shows the spatial relationships between these features. Knowing where these exist allows a more informed, detailed planning process that can highlight, connect, target, or avoid particular landscape features. In the preparation of a accurate map for the MST-East, geographic data important to the trail routing and alignment process were layered and examined to determine suitable and unsuitable areas for the potential MST trails.

At the outset of this project, it was determined that the ArcView GIS platform would be used to plan the regional development of the trail system. First, MST corridor local governments were asked to supply GIS files (shapefiles) such as parcels/land use, trails (existing and proposed), etc. that could aid in the identification of preferred greenway routes. The counties varied in the amount and quality of data available and provided. Next, an exhaustive GIS data search was conducted at such Internet data clearinghouse sites as the United States Geologic Survey, GIS Data Depot, U.S. Fish and Wildlife Service, TIGER 2000, Federal Emergency Management Agency, North Carolina county search engines, and county and city sites. The GIS data were chosen based on necessity, availability and quality (being current and accurate). All data gathered were organized and developed further when necessary. Data development included adjusting the map projection of each file for overlay purposes, clipping to the study area, joining or adding attribute data, and creating new

shape files by either selecting features of an existing shape file or digitizing information and adding it to an existing shape file.

The data were then assembled to produce large, informative, base maps for public meetings, input, and planning. These base maps were created for MST corridor segments and included roads, railroads, streams, town boundaries, existing trails, facilities, parcels/land use and other community assets.

The proposed trail alignments were digitized in the GIS environment, using streams, roads, existing/proposed trails, and key facility locations, as well as parcel/land use information for logical placement of the main trail, along with alternates and spurs.

It is anticipated that each of the local governments will incorporate the MST-East into their various planning efforts and coordinate trail development with neighboring jurisdictions. The result will be a network of greenways and trails that serve eastern North Carolina.



### Data Sources

The GIS map layers collected effectively portray topography, hydrology, land use, road networks, parks, municipality boundaries, and existing trails. The data layers, and accompanying data sources, that were collected and/or derived are as follows:

North Carolina Center for Geographic Information and Analysis (NCCGIA)

North Carolina Department of Transportation

TIGER 2000

Wake County GIS

Johnston County GIS

Wayne County GIS

Lenoir County GIS

Pitt County GIS

Craven County GIS

Carteret County GIS

Town of Clayton GIS

Town of Kinston GIS

City of Raleigh GIS

Federal Emergency Management Agency

United States Geologic Survey

